SYSTEMATIC RELATIONSHIP OF CLITHRIS

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(WITH PLATE IX)

The genus *Clithris* was described by FRIES (Syst. Myc. **2**:186) in 1823. Apparently unaware of this earlier description, WALLROTH (Crypt. **2**:422) erected the genus *Colpoma* in 1833, and CORDA (Icon. **5**:34) the genus *Sporomega* in 1840. FRIES's genus was entirely overlooked and the two others accepted, so that they appear in SACCARDO'S *Sylloge Fungorum* (**2**:801; **5**:1127) in 1883 and 1891. In 1896, however, REHM (Rabenh. Krypt. Fl. **3**:101) called attention to the earlier name as follows:

> Unter obigem Namen (*Clithris* 1823), welcher die Priorität besitzt, stelle ich sowohl *Colpoma* Wallr. 1833! mit aussen bereiften Apothecien, als *Sporomega* Corda 1840! mit schwarzen Apothecien zusammen, da der innere Bau, wie die Entwicklungsweise der Apothecien bei beiden die gleichen sind.

In his subsequent treatment of the genus *Clithris*, nearly all of the species are listed which were included by SACCARDO under *Colpoma* and *Sporomega*. SACCARDO (Sylloge Fung. **18**:165) in 1906 accepts REHM'S correction and records *Colpoma* and *Sporomega* as synonyms of *Clithris*.

FRIES and KARSTEN (Mycol. Fenn. **1**:221) placed *Clithris* next to *Cenangium*, while QUÉTLET (Enchir. Fung. 330) placed *Colpoma* among the Patellariaceae. SACCARDO at first listed *Colpoma* and *Sporomega* with the Hysteriales; but later, combining the two genera under *Clithris*, he places the whole with the Phacidiales.

In the light of what has just been said, the taxonomic relationship of the genus may appear uncertain; and, indeed, when specimens are examined, the difficulty is seen to be real. Characterized by a more or less linear ascoma which opens by a longitudinal split, the superficial aspect fits very well into the concept of an Hysteriaceous form. When there is added to this the fact that in many specimens the split is small and does not expose very widely the fruiting disk, the Hysteriaceous aspect is strengthened. It is not

surprising, therefore, that the position of *Clithris* has been questioned. That these superficial characters are not sufficient for a full diagnosis of relationship becomes at once evident, and the need of an exact statement is obvious.

In making the present study, there have been available authentic specimens of *Clithris quercina* (Pers.) Rehm (Fungi Selecti Exsiccati, *Roumeguére*, no. 268, and Mycotheca Universalis, *De Thumen*, no. 369); *C. verrucosum* Wallr. (Fungi Selecti Exsiccati, *Roumeguére*, no. 2827); *C. andromedae* (Schwein) Lindau (North American Fungi, *Ellis*, no. 155); and, through the kindness of E. A. BURT of the Missouri Botanical Gardens, *C. crispa* (Pers.) Rehm (*Romell*, Fungi Exsiccati Praesertim Scandinavici, no. 85). In addition to these, use has been made of the new species described in this paper.

Material from all of these specimens has been sectioned and studied, and camera lucida drawings made of such as are not already illustrated. An examination of sectioned and unsectioned ascomata showed the following:

1. The fruiting disk is large and of densely crowded asci and paraphyses (figs. 3, 6; 8–11). This is a thoroughly Phacidiaceous character, distinct from Hysteriaceous forms, where the fruiting disk is small and seldom with asci and paraphyses overcrowded.

2. The ascigerous hymenium is characteristically Discomycetous in nature (figs. 3, 6, 8–11). The Hysteriales are regarded as forming a bridge between the Discomycetes and the Pyrenomycetes; and consequently the more disklike the hymenium the less relationship the form may be expected to bear toward the Hysteriales.

3. The opening of the ascoma is a true split (figs. 8–10). Its edges are jagged and torn; it is wider at some places than at others; and portions of the edges are frequently broken completely away in the tearing (figs. 2, 11). Opposed to this character is the rather regular appearance of the edges of the openings in Hysteriaceous forms which suggests that the slit there is an elongated ostiole rather than a true split or tear.

4. The tendency in the specimens examined is to find the fruiting disk in places rather widely exposed, either by the wide bending back of the sides of the ascoma (figs. 3, 10) or by the

breaking off of portions of the top (figs. 6, 11). Hysteriaceous forms have the fruiting disk nearly or quite covered.

Strengthening these observations are the conditions to be observed in the new species of *Clithris* herewith described. *C. clusiae* (figs. 2, 3) shows the characteristically Discomycetous hymenium, and the tendency to expose the fruiting disk by the breaking off of portions of the roof of the ascoma. In the section it will be seen that the top has broken away completely, thus leaving the entire fruiting disk exposed. Almost the same conditions are to be found in *C. minor*. *C. pandani* (fig. 6) likewise shows the characteristically Discomycetous hymenium. Of the top of the ascoma there remain only small projections on either side. The center has broken away, leaving a very large part of the fruiting disk exposed.

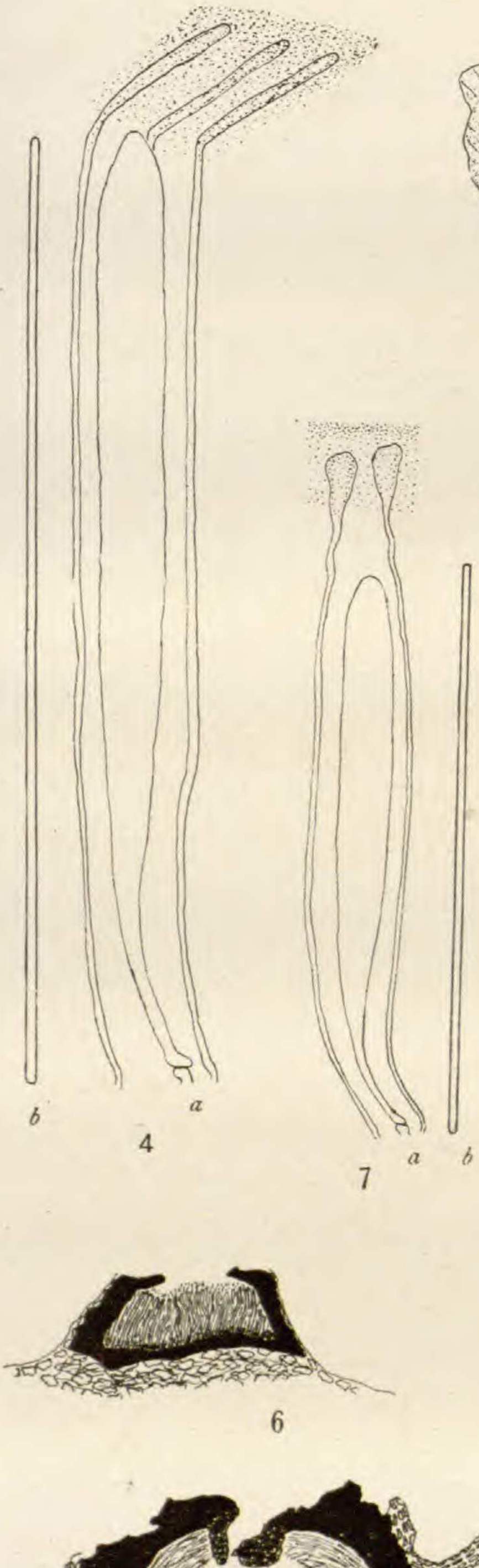
CLITHRIS Fries, 1823.—As originally described, *Clithris* is characterized in part by the possession of paraphyses coiled at the tip. Obviously, the form of the tips of the paraphyses cannot be held as a generic character, since the three species here described, which are clearly congeneric, show certain variations as regards the paraphyses tips, one only possessing the characteristic coiling. These species were collected by F. L. STEVENS in Porto Rico, and it is through his kindness that the author is allowed to include descriptions of them in this paper.

Clithris clusiae, sp. nov.—Spots 0.5–2 cm. in diameter, pale to yellow, uniformly dotted with the ascomata. Ascomata dark, subepidermal, erumpent, 950×468 μ, rupturing with the epidermis in a long slit. Paraphyses filiform, numerous, coalescing above in a pale yellow epithecium. Asci long, narrow, 150×7–8 μ, 8-spored; spores filiform, 1×150 μ, fragmenting when mature, pale smoky or light brown.

On dead leaves of *Clusia rosea*. Desecheo Island no. 1595 (type).

The ascomata of this species are to be found not only in spots on the leaf blade but also clustered very thickly on the petiole and the midrib. The paraphyses are not coiled apically, but slightly enlarged and straight. The tip bends just above the top of the asci, as is shown in fig. 4*a*.

Clithris minor, sp. nov.—Spots similar to those of *C. clusiae*. Ascomata small, dark, 624×220 μ. Paraphyses numerous, filiform,



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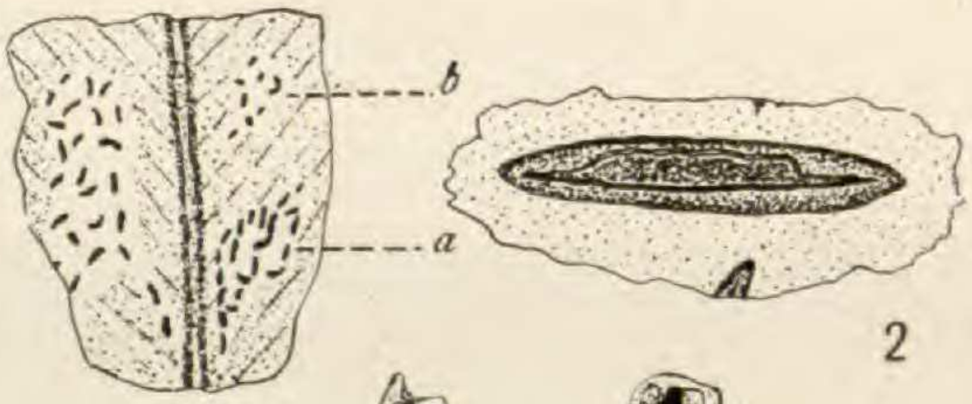

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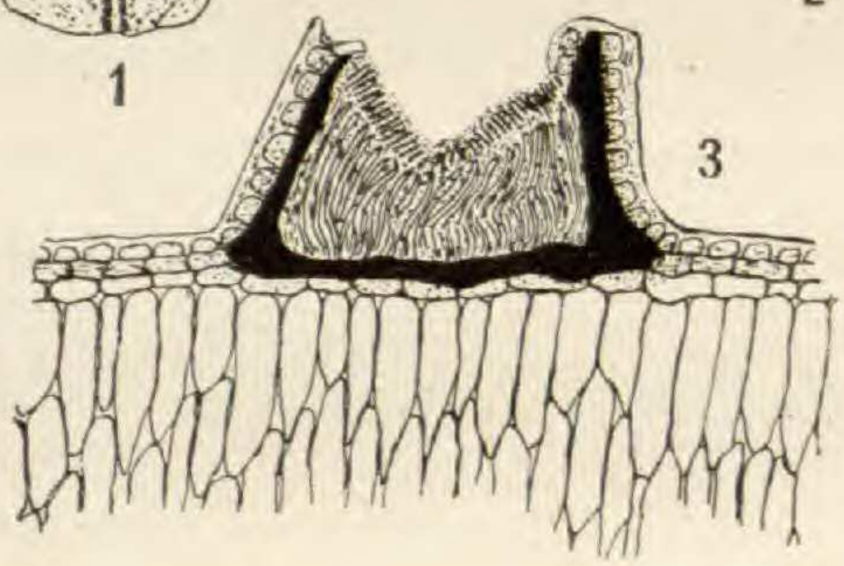

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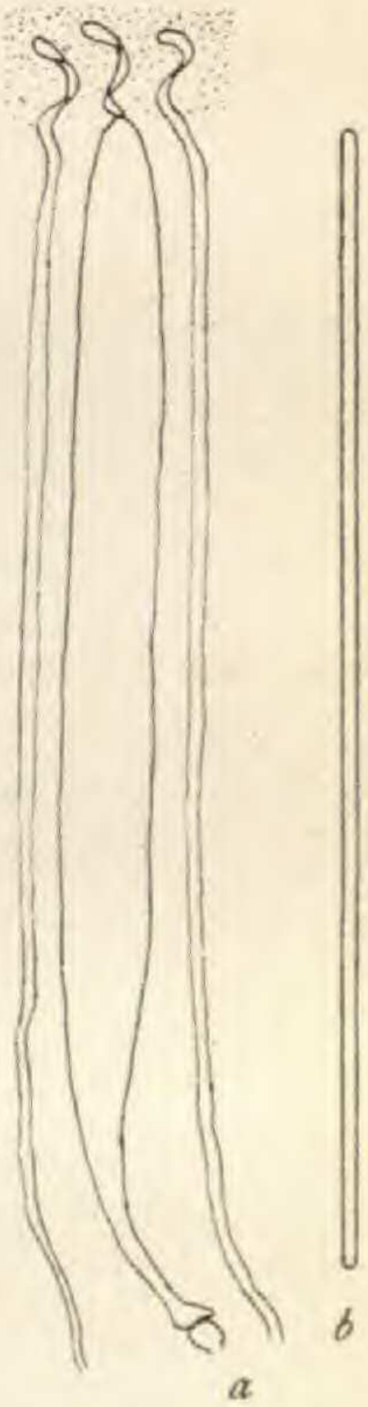

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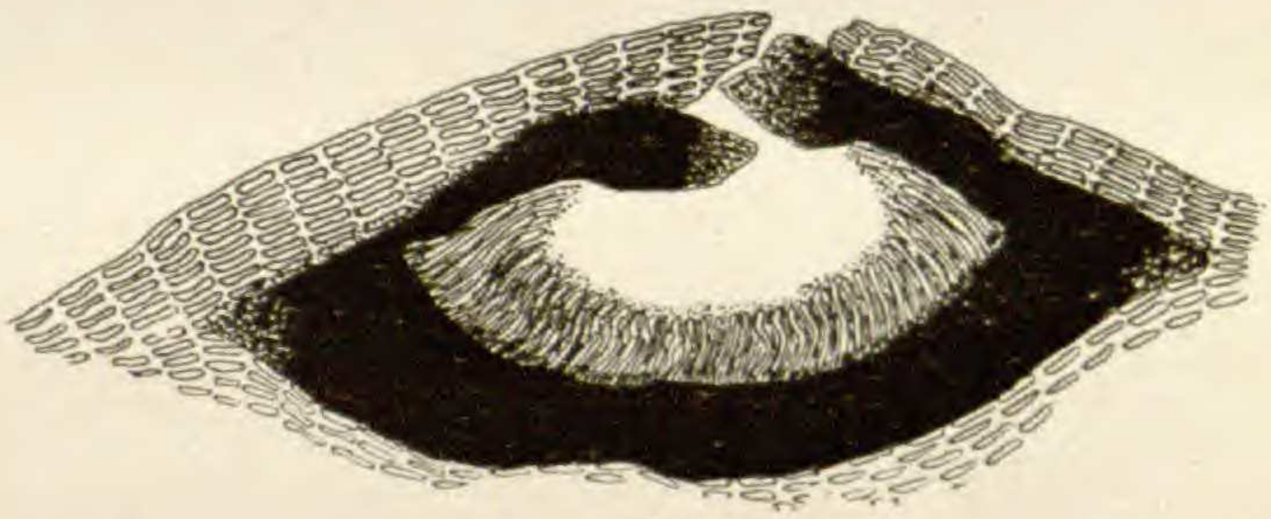

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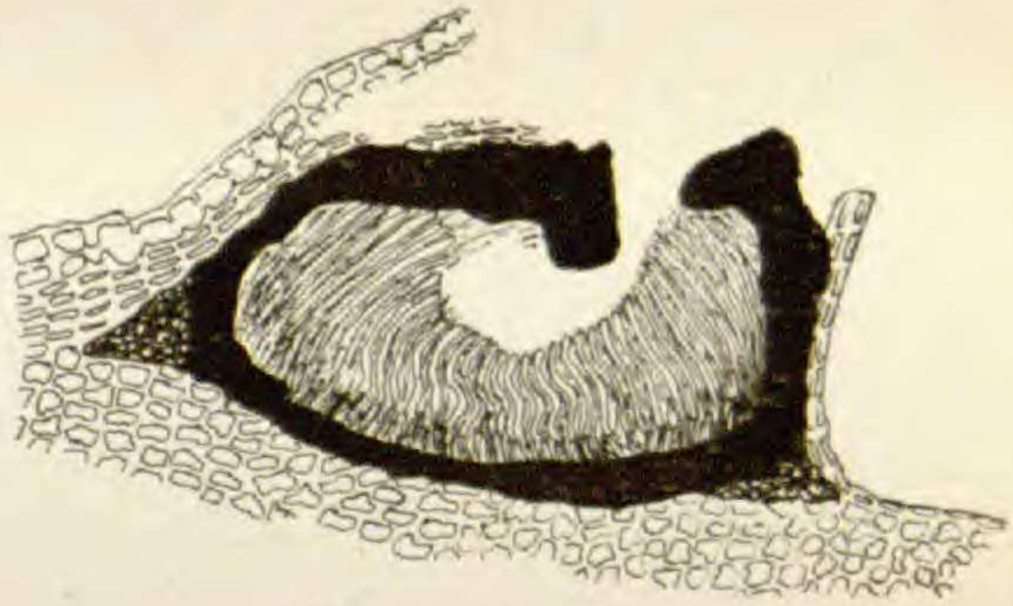

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TEHON on CLITHRIS